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CALFED Bay-Delta Program

February 23, 2000

Mr. Robert C. Hight, Director
California Department of Fish and Game
1416 Ninth Street
Sacramento CA 95814

Dear Director Hight:

The purpose of this letter is to express the grave concerns of the California-Nevada Chapter of the American Fisheries Society¹ regarding the Department's recently released document entitled "Managing Northern Pike at Lake Davis: A Plan for Y2000." Numerous Chapter members have reviewed the plan and find it to contain what we believe are both legal and biological fatal flaws. We ask in the strongest possible terms that you withdraw the plan as written and replace it with a document that is founded in sound fishery science, is prepared by experienced fishery scientists from within and external to the Department, and is committed to successfully eradicating northern pike from Central Valley watersheds. We believe any action less than eradication is in violation of state law and biologically and ecologically irresponsible.

Our review of the current Plan, as drafted, revealed three fatal flaws in the Plan's objective, selected capture and control techniques, and long term monitoring program. These fatal flaws, along with selected examples to support our conclusions are outlined below:

- **Plan Objective**

The Plan, as written, has a stated objective of containment and control for northern pike. We believe this objective is ill founded and concurrently violates the provisions of Title 14 and the Fish and Game Code. The objective of this Plan should be the eradication of northern pike from Lake Davis and its watershed. No competent and experienced fishery scientist would ever agree that you can "contain and control" an apex predator in a situation such as this over the long term. The Plan, by suggesting otherwise, clearly demonstrates a total lack of knowledge and understanding of fish population dynamics by the preparers of the document. This fatal flaw alone destroys the scientific credibility of the entire plan. We strongly encourage you to change the stated objective in the Plan to one of eradication. To not do so, we believe, would be irresponsible and further degrade the Department's credibility as a professional scientific organization.

¹ The American Fisheries Society is a 130-year old organization of fishery biologists. It is an international organization, with a membership of 10,000.

Selected Capture and Control Techniques

We have carefully reviewed the proposed capture and control techniques outlined in the current Plan and find that the selected techniques are inappropriate, incomplete, and generally based on a total lack of understanding of the basic life history and biology of the northern pike and brown trout. In addition, our review found that the Plan's choice of capture, containment, and "herding" gear and techniques could not be supported by field-experienced fishery scientists. Several examples illustrate these points:

1. The introduction of brown trout, while a known fish-eating species, will have little or no effect on the northern pike population. Brown trout will only marginally interact with northern pike since they have different habitat preferences and life histories. However, brown trout will prey upon catchable rainbow trout, as is reported in the fishery literature and demonstrated throughout California lakes and reservoirs;
2. Electrofishing, an effective tool for sampling fish populations, is not a technique that can be used to herd pike into nets and traps or collect large numbers of northern pike. Again, a review of the literature, data presented in your report, and discussions with fishery scientists familiar with the habits of northern pike and electrofishing technology confirm this conclusion;
3. The use of box traps is pointless. While springtime trapping might be slightly more effective, data in the Plan indicates that only two pike were trapped in 12,672 hours of effort. It appears that the preparers of the Plan failed to fully grasp the significance of this data, and thus suggested the use of a totally impractical tool. The references attached to the Plan document that traps have been shown to be ineffective in altering pike populations. We strongly encourage only the most effective and efficient tools be used to eradicate the northern pike.
4. The effort to confine northern pike in the Mosquito Slough area through the use of a block net again shows a complete lack of understanding of the biology of the pike and the misinterpretation of available data. Data presented in the Plan indicates that 181 of 197 pike captured by electrofishing in 1999 were captured in the Big Grizzly Creek/Mosquito Slough area. However, fishery biologists close to the project indicate that the majority of electrofishing effort was in the same area. Few pike were captured in other areas (i.e., Freeman and Cow creeks) because little effort was expended in those areas. As such, it appears that inadequate sampling data is available to support the conclusion that the majority of pike have moved into the Big Grizzly Creek/Mosquito Slough area and are retained behind the block net, let alone any confidence that a hastily placed and unattended net could prevent movement of northern pike of a variety of sizes in and out of the area.
5. The use of explosives to eradicate undesirable species has been attempted by your Department and found to be unsuccessful. Early efforts at Lake Almanor and recent attempts in the Eel River are two examples.

These are just a few examples to support our conclusion that the authors of the Plan failed to consider all available techniques and misapplied other techniques and strategies, based on a general lack of understanding of fisheries science, northern pike life history, and capture gear limitations

- **Ineffective and Scientifically Indefensible Monitoring Plan**

Our review of the proposed monitoring plan reveals that it is poorly conceived, lacks the appropriate spatial and temporal distribution, and appropriate sampling techniques and gear. These factors render the proposed monitoring program essentially useless and a total waste of funds. We believe that a monitoring plan should be based on a fundamental understanding of the life history of the biological resources to be monitored. Clearly, the monitoring plan as proposed fails to meet this essential condition. In addition, the level of effort proposed is inadequate to monitor the population levels of northern pike. A new monitoring plan should be developed by experienced and knowledgeable fishery scientists.

It is clear to us that little or no sound fishery science has been used to develop this Plan. It appears the Department has adopted objectives, control techniques, and monitoring programs based on consensus of non-biologists. In doing so, the Department has abdicated its legal and professional responsibilities. We believe the Department's failure to prepare a biologically sound Plan will have an irreversible effect on California's natural resources, sport and commercial fisheries, and will potentially harm threatened and endangered species we have worked so hard to protect. In addition, this Plan sets a dangerous precedent of the low level of scientific merit which is acceptable to the Department. In short, the Plan as drafted, simply facilitates a biological and ecological disaster in the future.

In addition, the Plan exhibits no regard for the enormous effort and millions of dollars already spent on native anadromous fish restoration in the Central Valley and Bay-Delta system. State and Federal agencies, along with stakeholder groups, under the Cal-Fed process, have spent \$254,000,000 to date on environmental issues associated with the restoration and protection of Central Valley native fish. That amount does not include public funds invested over the past 30 years by the Bay-Delta Program and other fishery restoration programs. The introduction of another non-native predator, such as the northern pike could end up as a major set-back to these heavily funded programs.

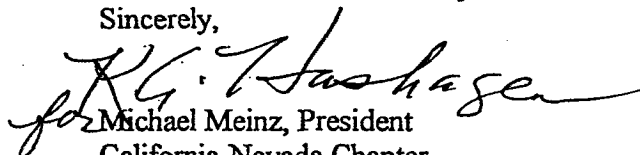
CALFED has been developing an Ecosystem Restoration Plan for the Bay-Delta watershed for several years. Science advisors to the CALFED program have cautioned that there are a number of uncertainties and issues of concern that could hamper CALFED's ability to adequately define some ecological problems or to design effective restoration actions for known problems. At the top of the list of uncertainties and concerns is the presence and continued introduction of non-native invasive species. Specifically, the advisors have warned, "Nonnative invasive species have had a significant impact throughout the Bay-Delta ecosystem, but it is unclear exactly how they have affected Bay-Delta ecology, such as foodweb productivity, hydrological processes, and populations of native species. It is also unclear to what extent introduced species can be eradicated or controlled effectively. And it is uncertain to what extent introduced species may preclude achieving restoration objectives. In order to minimize the risk of potentially massive ecological and biological disruptions associated with non-native species – disruptions that could threaten to negate the benefits of restoration efforts – it is important to initiate an early program that meets the following goals:

- a. Prevent new introductions and establishment of Nonnative Invasive Species (NIS) into the ecosystems of the San Francisco Bay-Delta, the Sacramento/San Joaquin rivers and their watersheds,
- b. Limit the spread of, when possible and appropriate, eliminate populations of NIS through management,
- c. Reduce the harmful ecological, economic, social, and public health impacts resulting from infestation of NIS through appropriate mitigation, and
- D. Increase our understanding of the invasion process and the roll of established NIS in ecosystems in the CALFED region through research and monitoring".

Additionally, existing law (Lempert, AB703) "requires the Department of Fish and Game to adopt the International Maritime Organization's "Guidelines for Preventing the Introduction of Unwanted Aquatic Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges" as the policy of the state to prevent the introduction and spread of aquatic nuisance species into any river, estuary, bay, or coastal area through the exchange of ballast water of vessels prior to entering those waters.....". It is obvious that the Legislature is concerned with the introduction and spread of invasive species into San Francisco Bay and the Delta, as well as other waters.

We believe the Plan absolutely should not be implemented in its current form. In spite of our severe criticism of the current Plan, the California-Nevada Chapter would like to offer the expertise of its scientists to help re-draft the Plan using sound fishery science and provide the Department with a peer review of the new draft. Our 500 members stand ready to help the Department in this important effort.

Sincerely,



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